

FIG 1

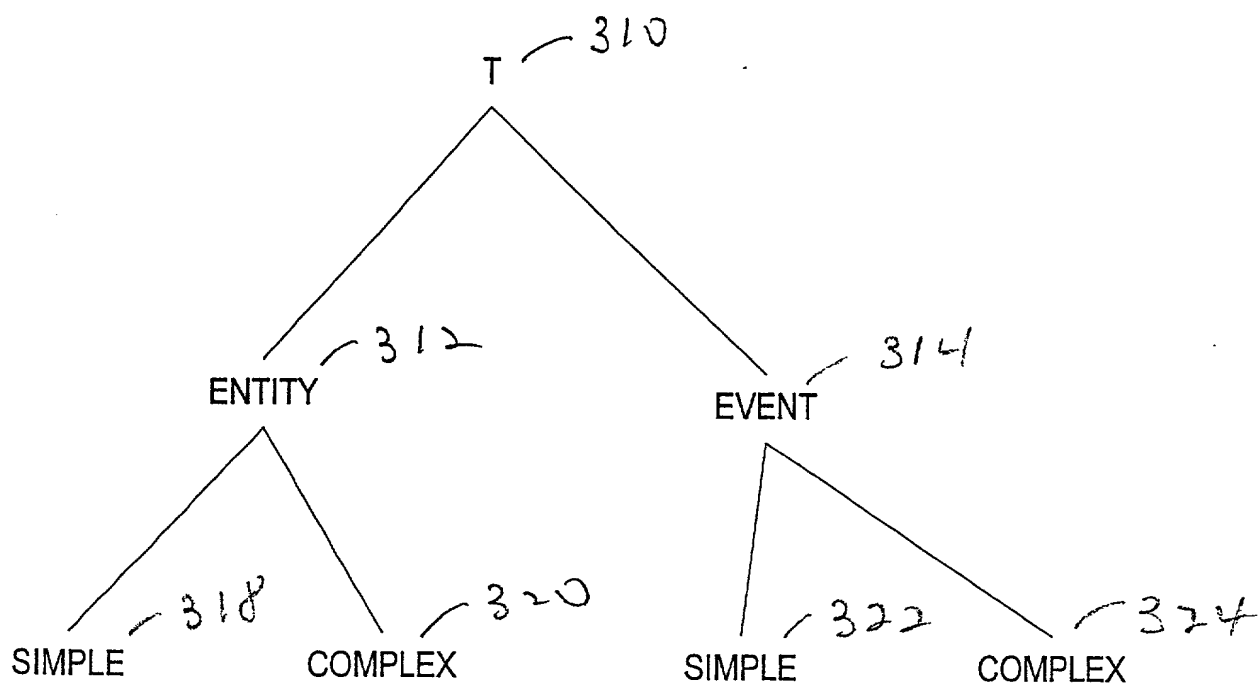
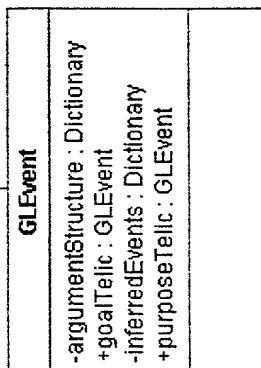
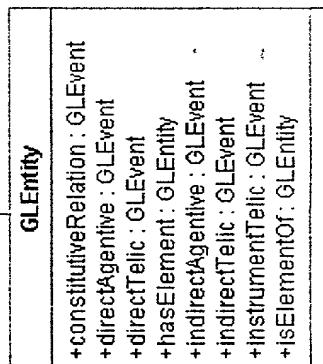
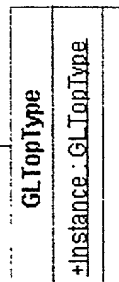
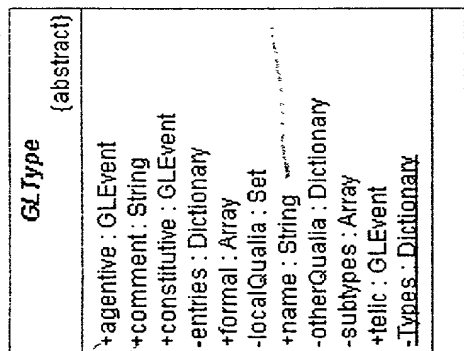


FIG. 2

UML Class Diagram

410



510a

526

Loading Saving Change Logs Views Tools						
Create Type	Excl Type	Delete Type	Delete Subs...	Rename Type	Change Super	Find Type
TopType *		mutual fund				
Entity * — 524						
Group *						
Immaterial Entity * — 522		— 512				
Individuated Entity *						
Area *						
Celestial Body *		— 520				
Individuated Functional Entity						
Individuated Instrumental Entity		— 516				
Communication Medium *		— 514				
Financial Instrument *						
Mutual Fund						
Payment Instrument						
Individuated Tool Entity PartOf						
Representational Artifact *						
Social Entity *						
Sound *						
Source *						
Virtual Object *						
Visual Image *						
Material Entity *						
Mutual Fund		mutual fund - 2				
"a Complex GLEntity" — 550		"a CollocationalNounEntry"				
formal: #([[Company]] [[Financial Instrument]])		type: [[Mutual Fund]]				
indirectAgentive: [[Found Activity]]		name: mutual fund — 540				
directTelic: [[Business Activity]]						
*instrumentTelic: [[Invest Activity]]						
genre: [[Genre]]						
location: [[Locative Relation]]						
Create	Excl	X-G Mat	Copp	Rename	Delete	Multiple Del
Find	Change Type	Change Types				

Fig 4

5106

Create Type	Edit Type	Delete Type	Create Entry	Rename Type	Change Super	Find Type
<div><div><div>Come into Contact Activity * Goal Directed Activity * Accommodation Activity * Assessment Activity * Assistance Activity * Attempt Activity * Business Activity * Audit Activity *</div><div><div>Invest Activity</div><div>Choose Activity * Classify Activity * CoAgentive Activity * Collect Activity * Commit Activity * Communication Process * Encourage Activity * Entertainment Activity * Espionage Activity * Function Activity * Hospitality Activity * Imitation Activity * Investigate Activity * Lead Activity *</div></div></div><div><div>Invest Activity "a Simple GLEvent"</div><div>formal: #[[Business Activity]] argumentStructure: externalArgument [[Legal Entity]] theme: [[TopType]]</div></div><div><div>invest - 3 "a VerbEntry"</div><div>type: [[Invest Activity]] subjectRole: externalArgument poRole1: theme poHead1: n</div></div></div>						

Create	Edit	X-D Mail	Copy	Rename	Delete	Multiple Del	Find	Change Type	Change Types			
Start	Works	Visual	TEEP	Learn	Export	Folder	TS on	patent	Pero	TS on	TS a	355 PM

612

614

640

635 - 630

636

637

638

640

File 5

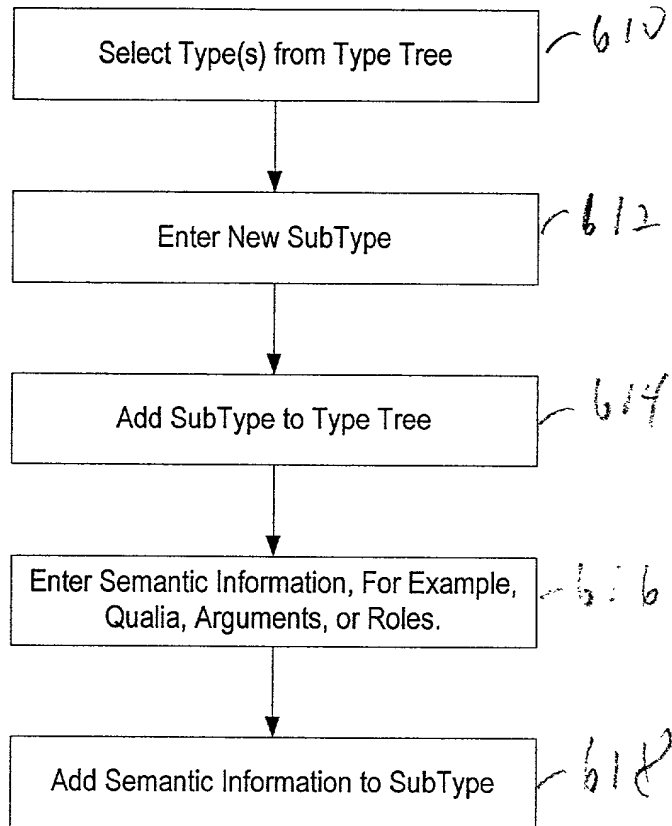


FIG. 6A

Downloaded from www.scribd.com

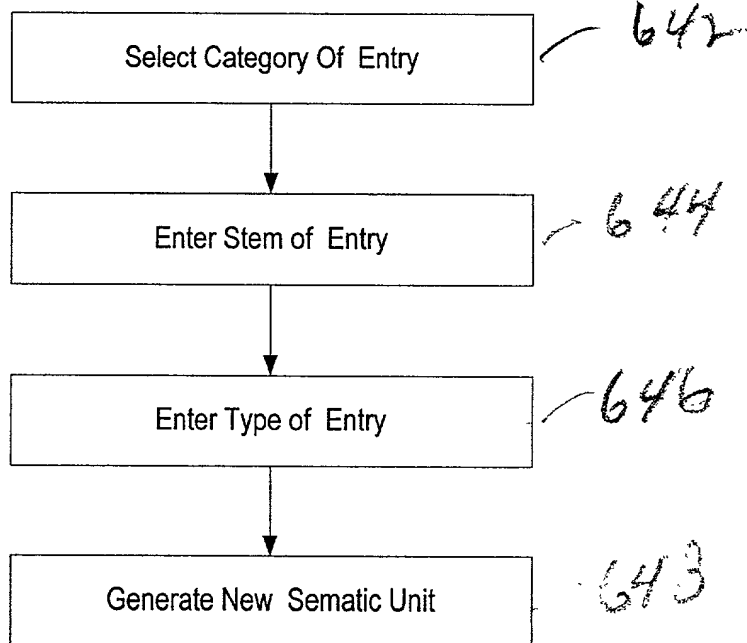


FIG. 6B

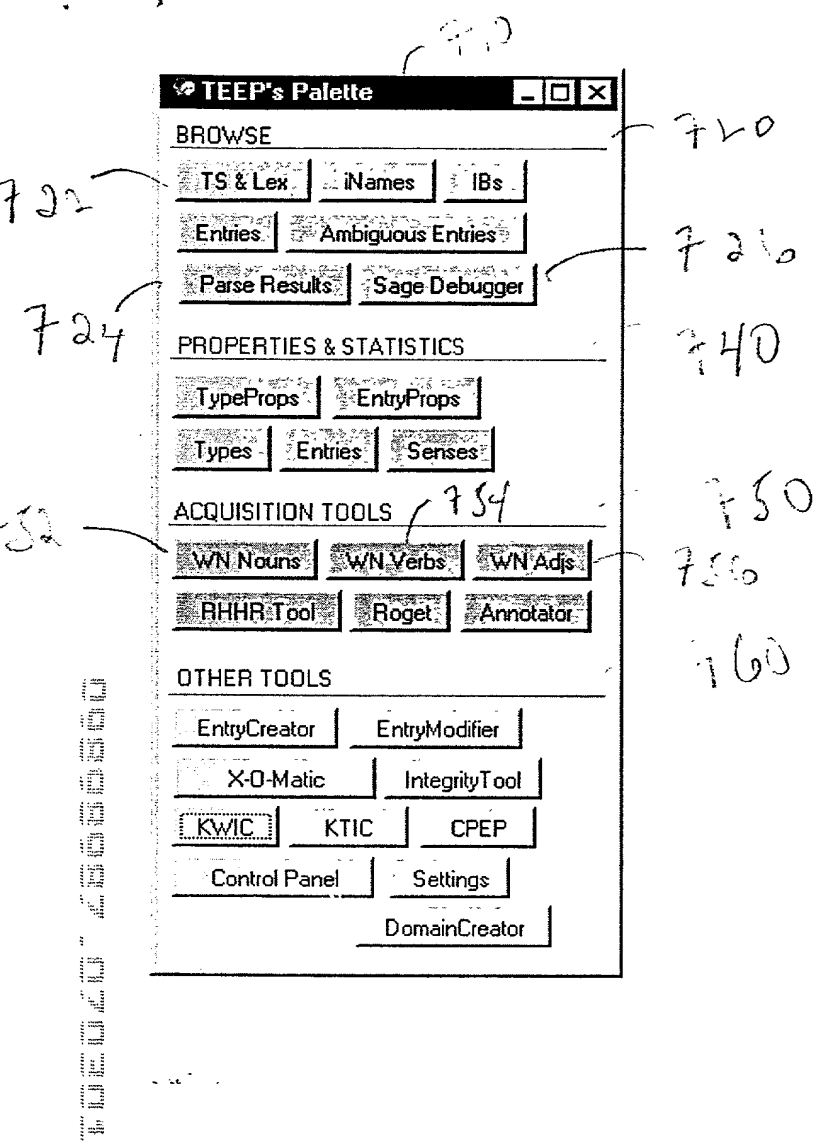
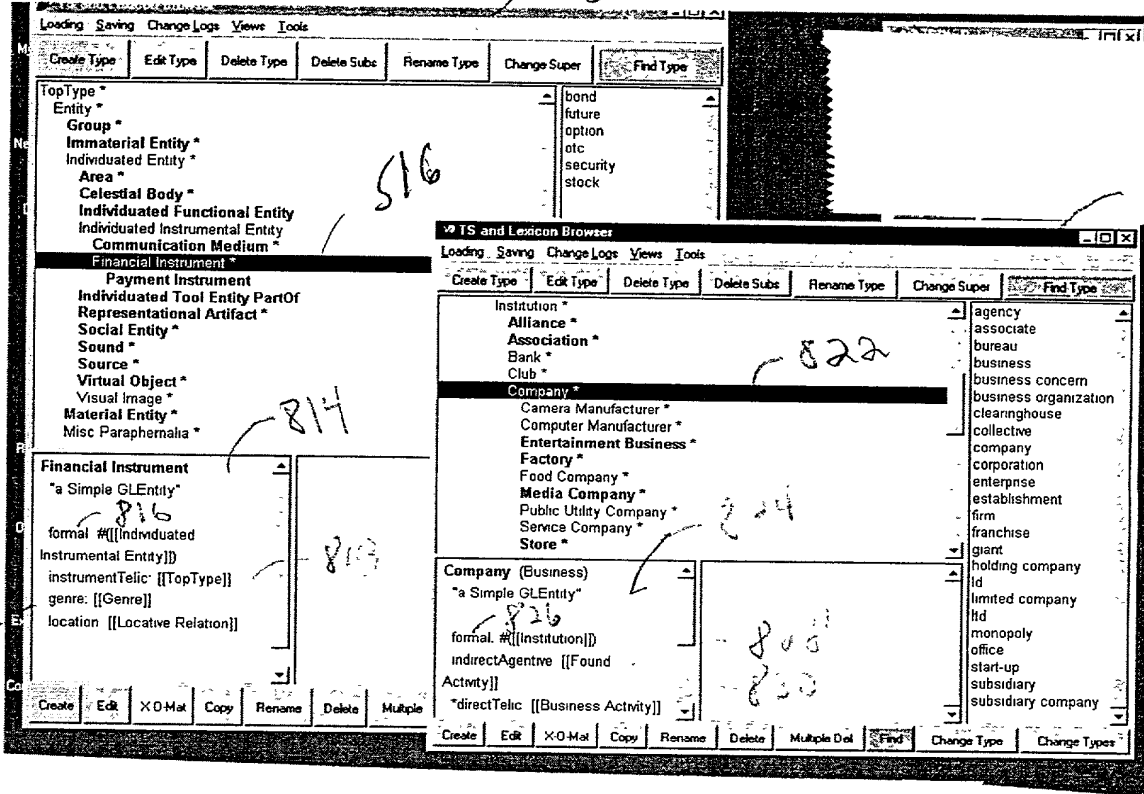


FIG 7

810a

810b



F 15 8

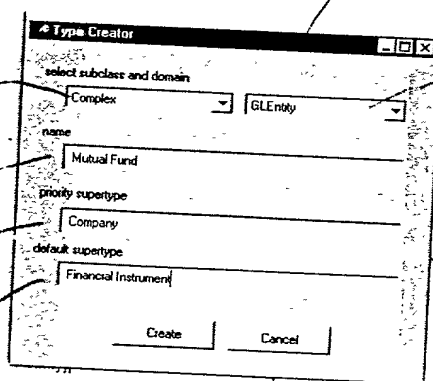


Fig. 1

810w

1210

TopType *
Entity *
Group *
Immaterial Entity *
Individuated Entity *
Area *
Celestial Body *
Individuated Functional Entity
Individuated Instrumental Entity
Communication Medium *
Financial Instrument *
Mutual Fund
Payment Instrument
Individuated Tool Entity PartOf
Representational Artifact *
Social Entity *
Sound *
Source *
Virtual Object *
Visual Image *
Material Entity *

Mutual Fund
"a Complex GLEntity"

formal: #([[Company]]) [[Financial
Instrument]])
indirectAgentwe [[Found
Activity]]
directTelic [[Business Activity]]
instrumentTelic [[TopType]]
genre: [[Genre]]

TS and Lexicon Browser

Come Into Contact Activity *
Goal Directed Activity *
Accommodation Activity *
Assessment Activity *
Assistance Activity *
Attempt Activity *
Business Activity *
Audit Activity *
Invest Activity
Choose Activity *
Classify Activity *
CoAgentive Activity *
Collect Activity *
Commit Activity *
Communication Process *
Encourage Activity *
Entertainment Activity *
Espionage Activity *

Invest Activity
"a Simple GLEvent"
formal #([[Business Activity]])
argumentStructure
externalArgument [[Legal
Entity]]
theme [[TopType]]

Create Type Edit Type Delete Type Delete Subs Rename Type Change Super Find Type

Create Edit X-O-Mat Copy Rename Delete Multiple Del Find Change Type Change Types

314

550

540

6446

646

614

64P

642

Fig. 12

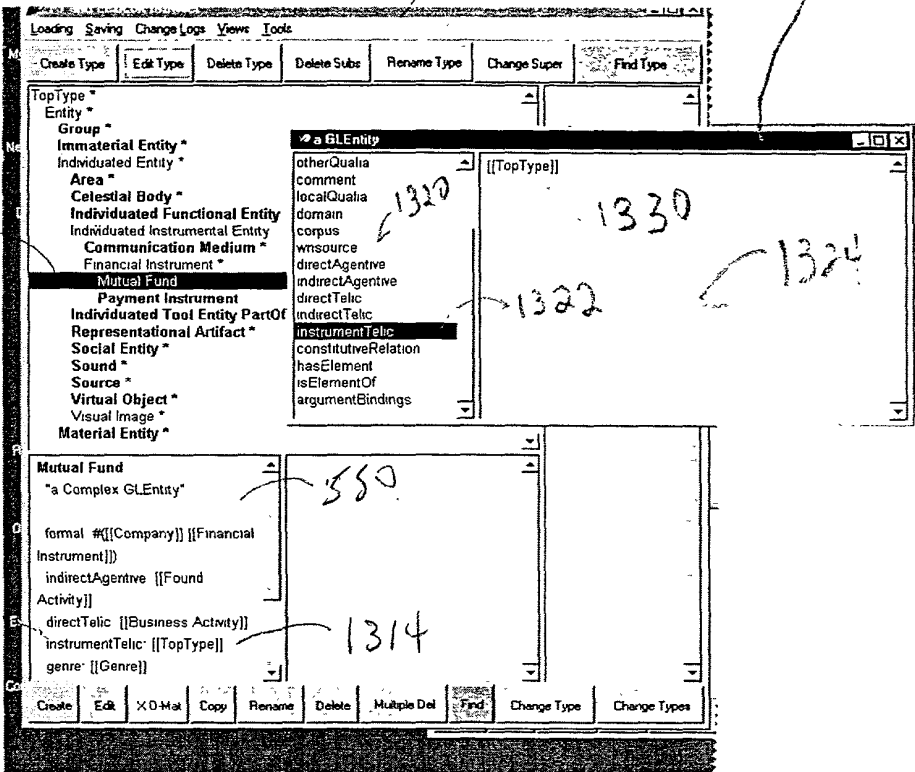


Fig 13

2101

TS and Lexicon browser

Loading Saving Change Logs Views Tools

Create Type	Edit Type	Delete Type	Delete Subs	Rename Type	Change Super	Find Type
-------------	-----------	-------------	-------------	-------------	--------------	-----------

TopType *

Entity *

Group *

Immaterial Entity *

Individuated Entity *

Area *

Celestial Body *

Individuated Functional Entity

Individuated Instrumental Entity

Communication Medium *

Financial Instrument *

Mutual Fund

Payment Instrument

Individuated Tool Entity PartOf

Representational Artifact *

Social Entity *

Sound *

Source *

Virtual Object *

Visual Image *

Material Entity *

550

Mutual Fund

"a Complex GLEntity"

formal: #([[Company]]) [[Financial Instrument]])

indirectAgentive: [[Found Activity]]

directTelic: [[Business Activity]]

*instrumentTelic: [[Invest Activity]]

genre: [[Genre]]

location: [[Locative Relation]]

540

1410

Create	Edit	X-O-Mat	Copy	Rename	Delete	Multiple Del	Find	Change Type	Change Types
--------	------	---------	------	--------	--------	--------------	------	-------------	--------------

Fig 14

20250327 14:00:00

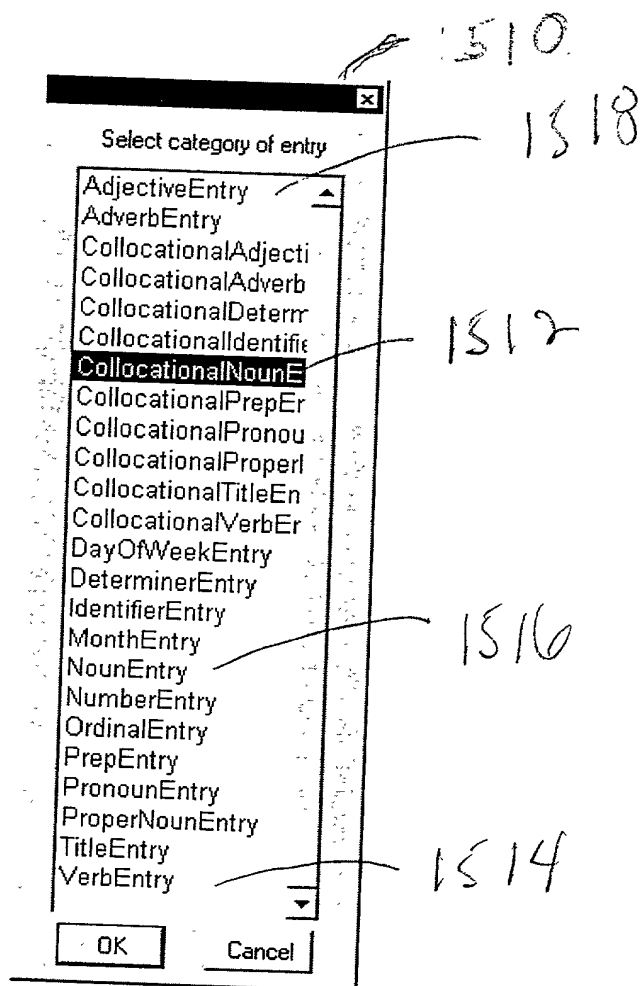
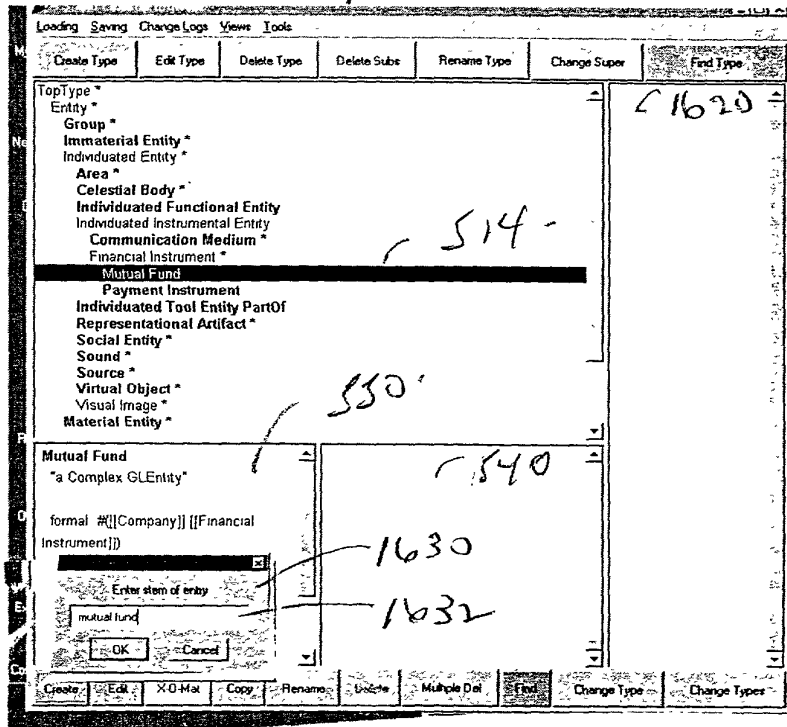


Fig. 15



810a

TS and Lexicon browser

Loading Saving Change Logs Views Tools

Create Type	Edit Type	Delete Type	Delete Subs	Rename Type	Change Super	Find Type
-------------	-----------	-------------	-------------	-------------	--------------	-----------

TopType *

Entity *

Group *

Immaterial Entity *

Individuated Entity *

Area *

Celestial Body *

Individuated Functional Entity

Individuated Instrumental Entity

Communication Medium *

Financial Instrument *

Mutual Fund *

Payment Instrument

Individuated Tool Entity PartOf

Representational Artifact *

Social Entity *

Sound *

Source *

Virtual Object *

Visual Image *

Material Entity *

mutual fund

1710

Mutual Fund

"a Complex GLEntity"

formal: #([[Company]]) [[Financial Instrument]])

indirectAgentive: [[Found Activity]]

directTelic: [[Business Activity]]

*instrumentTelic: [[Invest Activity]]

genre: [[Genre]]

location: [[Locative Relation]]

mutual fund - 2

"a CollocationalNounEntry"

type: [[Mutual Fund]]

name: mutual fund

Create	Edit	X-O-Mat	Copy	Rename	Delete	Multiple Del	Find	Change Type	Change Types
--------	------	---------	------	--------	--------	--------------	------	-------------	--------------

514

550

1720

540

7722

542

1726

1410

Fig 17

The screenshot displays the 'TS and Lexicon Browser' application. The top menu bar includes 'Loading', 'Saving', 'Change Logs', 'Views', and 'Tools'. Below this is a toolbar with buttons for 'Create Type', 'Edit Type', 'Delete Type', 'Delete Subs', 'Rename Type', 'Change Super', and 'Find Type'. The main window is divided into two panes. The left pane lists various activities, with 'Invest Activity' selected and highlighted in black. The right pane shows the details of the selected 'Invest Activity', including its formal name 'a Simple GLEvent' and its argument structure. Handwritten annotations in black ink are present throughout the interface, including '614', '1832', '1830', '640', '1820', '635', and '630'. The bottom status bar contains buttons for 'Create', 'Edit', 'X-O-Mat', 'Copy', 'Rename', 'Delete', 'Multiple Del', 'Find', 'Change Type', and 'Change Types'.

TS and Lexicon Browser

Loading Saving Change Logs Views Tools

Create Type Edit Type Delete Type Delete Subs Rename Type Change Super Find Type

Come Into Contact Activity *
Goal Directed Activity *
Accomodation Activity *
Assessment Activity *
Assistance Activity *
Attempt Activity *
Business Activity *
Audit Activity *
Invest Activity *
Choose Activity *
Classify Activity *
CoAgentive Activity *
Collect Activity *
Commit Activity *
Communication Process *
Encourage Activity *
Entertainment Activity *
Espionage Activity *

invest

614

1832

1830

Invest Activity
"a Simple GLEvent"
formal: #([[Business Activity]])
argumentStructure:
externalArgument: [[Legal Entity]]
theme: [[TopType]]

invest - 3
"a VerbEntry"
type: [[Invest Activity]]

640

1820

635

630

Create Edit X-O-Mat Copy Rename Delete Multiple Del Find Change Type Change Types

Fig 18

614

1210

2010

2020

2030

2028

1922

1920

640

635

630

Invest Activity

"a Simple GLEvent"

format: #([Business Activity])

argumentStructure

externalArgument [[Legal Entity]]

theme [[TopType]]

Invest - 3

"a VerbEntry"

type [[Invest Activity]]

self

comment

features

corpus

domain

featureDictionary

wnsource

subjectRole

predicateRole

objectRole

indirectObjectRole

ppHead1

ppRole1

ppHead2

ppRole2

ppHead3

ppRole3

#externalArgument

accept

cancel

Create Type

Edit Type

Delete Type

Delete Subs

Rename Type

Change Super

Find Type

Create

Edit

X-O-Mat

Copy

Rename

Delete

Multiple Del

Find

Change Type

Change Types

Start

Works...

Visual...

TEEP...

Lexem...

Explor...

Eudor...

TS an...

patent...

Parse...

TS an...

TS an...

a Ve...

3:56 PM

Fig 19

1210

614

Relational Process *
Abstract Entity Process *
Adventurous Activity *
Causation Activity *
Come Into Contact Activity *
Goal Directed Activity *
Accommodation Activity *
Assessment Activity *
Assistance Activity *
Attempt Activity *
Business Activity *
Audit Activity *
Invest Activity *
Choose Activity *
Classify Activity *
CoAgentive Activity *
Collect Activity *
Commit Activity *
Communication Process *
Encourage Activity *
Entertainment Activity *
Espionage Activity *

self
formal
agentive
telic
constitutive
otherQualia
comment
localQualia
domain
corpus
wmsource
goalTelic
purposeTelic
argumentStructure
inferredEvents

ArgumentDictionary
#amount -> [[Money]]
#externalArgument -> [[Legal Entity]]
#theme -> [[TopType]]

Invest Activity
"a Simple GLEvent"
format: #([[Business Activity]])
argumentStructure
*amount [[Money]]
externalArgument [[Legal Entity]]
theme [[TopType]]

Create TypeEdit TypeDelete TypeDelete SubsRename TypeChange SuperFind Type

invest
investment

2210

2220

2242

2244

2240

2230

640

2252

CreateEditXO-MatCopyRenameDeleteMultiple DelFindChange TypeChange Types

Fig 60

[illegible]

Fig 21

Fig 21

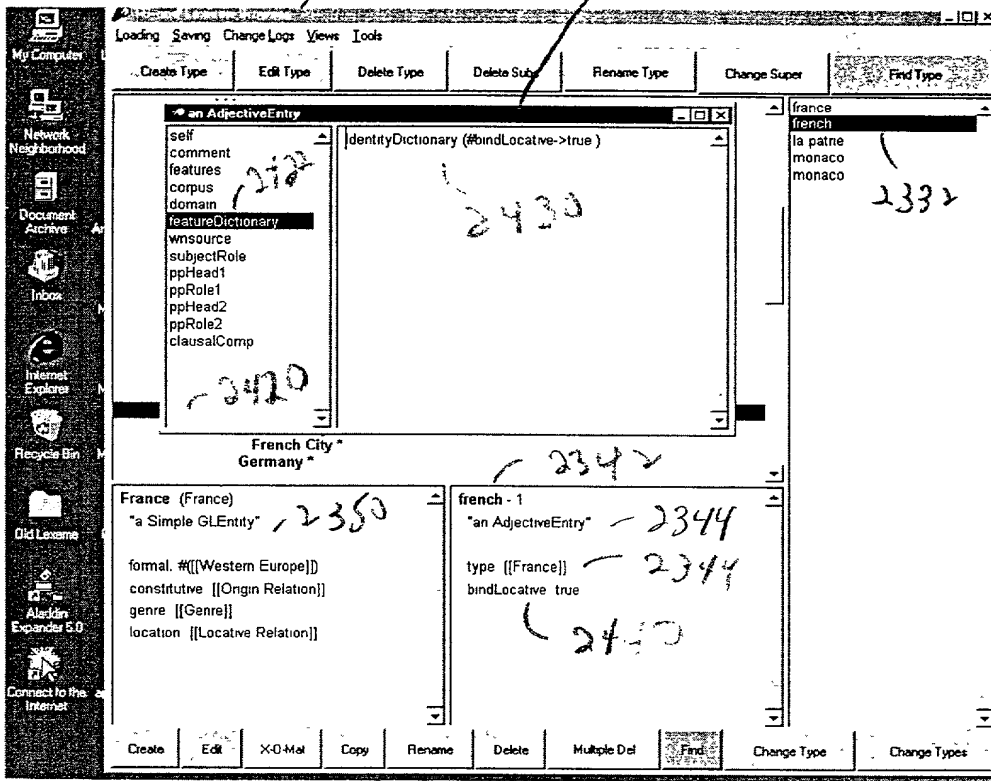


Fig 22

30

2710 2822

Sage Tracer/Debugger

Inspect Help

Input: recipes for soup

populate query Parse

PreProcessing Parse ParseTrace EntityLexFs FunctionLexFs Inserts

recipes for soup

active edges inactive edges

- <Edge 1-4: Utterance => NP >
- <Edge 1-4: NP => NP PP >
- <Edge 1-2: Utterance => NP >
- <Edge 1-2: NP => CoreNP >
- <Edge 1-2: CoreNP => NBar >
- <Edge 1-2: NBar => N >
- <Edge 1-2: N => N >

String: recipes for soup

Rule: <Utterance => *NP>

UtteranceLexLF

type: [[Question]]

string: recipes for soup

illocutionaryForce: Selection

content: || EntityLexLF

type: [[Recipes]]

value: recipe

directTactic: || FunctionLexLF

type: [[Prepare Food Activity]]

externalArgument: || EntityLexLF

type: [[Recipes]]

value: recipe ||

theme: || EntityLexLF

NP

NP

CoreNP

NBar

recipes

PP

for

NP

CoreNP

NBar

soup

2812

2810a

2824

2820a

2830

2832

2851a

2840a

714

2710

Sage Tracer/Debugger

Inspect Help

Input: recipes for soup

populate query Parse

PreProcessing Parse ParseTrace EntityLexFs FunctionLexFs Inserts

recipes for soup

active edges inactive edges

- <Edge 1-2: AdjBar => NBar, Punctuation AdjBar >
- <Edge 1-2: AdjBar => NBar AdjBar >
- <Edge 1-2: NP => NP ComplementVP >
- <Edge 1-2: NP => NP RelS >
- <Edge 1-2: NP => NP Punctuation Conj NP >
- <Edge 1-2: NP => NP Punctuation NP >
- <Edge 1-2: NP => NP Conj NP >
- <Edge 1-2: NP => NP PP >
- <Edge 1-2: DeterminerGroup => NP POS >
- <Edge 1-2: ComplementS => NP VP >
- <Edge 1-2: RootS => NP VP >
- <Edge 1-2: Utterance => NP EndPunct >

String: recipes

Rule: <NP => *NP PP (TakesPPComplement) (PPComplementForNP)>

EntityLexLF

type: [[Recipes]]

value: recipe

directTactic: || FunctionLexLF

type: [[Prepare Food Activity]]

externalArgument: || EntityLexLF

type: [[Recipes]]

value: recipe ||

theme: || EntityLexLF

type: [[Soup]]

value: soup || ||

NP

NP

CoreNP

NBar

recipes

2717

2810b

2820b

2830

2895b

2840b

2710 2822

2740

2710

Sage Tracer/Debugger

Inspect Help

Input: recipes for soup

populate query Parse

PreProcessing Parse ParseTrace EntityLexFs FunctionLexFs Inserts

Adding inactive edge: <Edge 1-2: N => N >
Adding inactive edge: <Edge 1-2: NBar => N >
Adding inactive edge: <Edge 1-2: CoreNP => NBar >
Adding inactive edge: <Edge 1-2: NP => CoreNP >
Adding inactive edge: <Edge 1-2: Utterance => NP >
Adding active edge: <Edge 1-2: Utterance => NP EndPunct >
Adding active edge: <Edge 1-2: RootS => NP VP >
Adding active edge: <Edge 1-2: ComplementS => NP VP >
Adding active edge: <Edge 1-2: DeterminerGroup => NP POS >
Adding active edge: <Edge 1-2: NP => NP PP >
Adding active edge: <Edge 1-2: NP => NP Conj NP >
Adding active edge: <Edge 1-2: NP => NP Punctuation NP >
Adding active edge: <Edge 1-2: NP => NP Punctuation Conj NP >
Adding active edge: <Edge 1-2: NP => NP RelS >
Adding active edge: <Edge 1-2: NP => NP ComplementVP >
Adding active edge: <Edge 1-2: AdjBar => NBar AdjBar >
Adding active edge: <Edge 1-2: AdjBar => NBar Punctuation AdjBar >
Adding inactive edge: <Edge 2-3: Prep => Prep . >
Adding active edge: <Edge 2-3: PP => Prep NP >
Adding active edge: <Edge 2-3: AdvP => Prep DayOfWeek >
Adding inactive edge: <Edge 3-4: N => N >
Adding inactive edge: <Edge 3-4: NBar => N >
Adding inactive edge: <Edge 3-4: CoreNP => NBar >
Adding inactive edge: <Edge 3-4: NP => CoreNP >
Adding active edge: <Edge 3-4: ComplementS => NP VP >
Adding active edge: <Edge 3-4: DeterminerGroup => NP POS >
Adding active edge: <Edge 3-4: NP => NP PP >
Adding active edge: <Edge 3-4: NP => NP Conj NP >

3010

Fig 26a

2710

Sage Tracer/Debugger

Inspect Help

Input: recipes for soup

populate query Parse

PreProcessing Parse ParseTrace EntityLexFs FunctionLexFs Inserts

Adding inactive edge. <Edge 3-4. NP => CoreNP >
Adding active edge. <Edge 3-4. ComplementS => NP VP >
Adding active edge. <Edge 3-4. DeterminerGroup => NP POS >
Adding active edge. <Edge 3-4. NP => NP PP >
Adding active edge. <Edge 3-4. NP => NP Conj NP >
Adding active edge. <Edge 3-4. NP => NP Punctuation NP >
Adding active edge. <Edge 3-4. NP => NP Punctuation Conj NP >
Adding active edge. <Edge 3-4. NP => NP RelS >
Adding active edge. <Edge 3-4. NP => NP ComplementVP >
Matching <Edge 2-3 PP => Prep NP > with <Edge 3-4 NP => CoreNP >
Adding inactive edge. <Edge 2-4 PP => Prep NP >
Matching <Edge 1-2 NP => NP PP > with <Edge 2-4 PP => Prep NP >
Adding inactive edge. <Edge 1-4. NP => NP PP . >
Adding inactive edge. <Edge 1-4. Utterance => NP >
Adding active edge. <Edge 1-4. Utterance => NP EndPunct >
Adding active edge. <Edge 1-4. RootS => NP VP >
Adding active edge. <Edge 1-4. ComplementS => NP VP >
Adding active edge. <Edge 1-4. DeterminerGroup => NP POS >
Adding active edge. <Edge 1-4. NP => NP PP >
Adding active edge. <Edge 1-4. NP => NP Conj NP >
Adding active edge. <Edge 1-4. NP => NP Punctuation NP >
Adding active edge. <Edge 1-4. NP => NP Punctuation Conj NP >
Adding active edge. <Edge 1-4. NP => NP RelS >
Adding active edge. <Edge 1-4. NP => NP ComplementVP >
Adding active edge. <Edge 3-4. AdjBar => NBar AdjBar >
Adding active edge. <Edge 3-4. AdjBar => NBar Punctuation AdjBar >
Adding active edge. <Edge 3-4. NBar => N NBar >

3020

Fig 262

3230 3220 3210

Parse Results Browser

Parsing Information Builders

Sentence: recipes for soup

Parse #1 All Edges

Semantics Tree Edges

3240

3250

3260

3242

```
|| EntityLexLF
  type: [[Recipes]]
  value: recipe
  directTelic: || FunctionLexLF
    type: [[Prepare Food Activity]]
    externalArgument: || EntityLexLF
      type: [[Recipes]]
      value: recipe ||
    theme: || EntityLexLF
      type: [[Soup]]
      value: soup || ||
```

Fig 27

3210

3250

3310

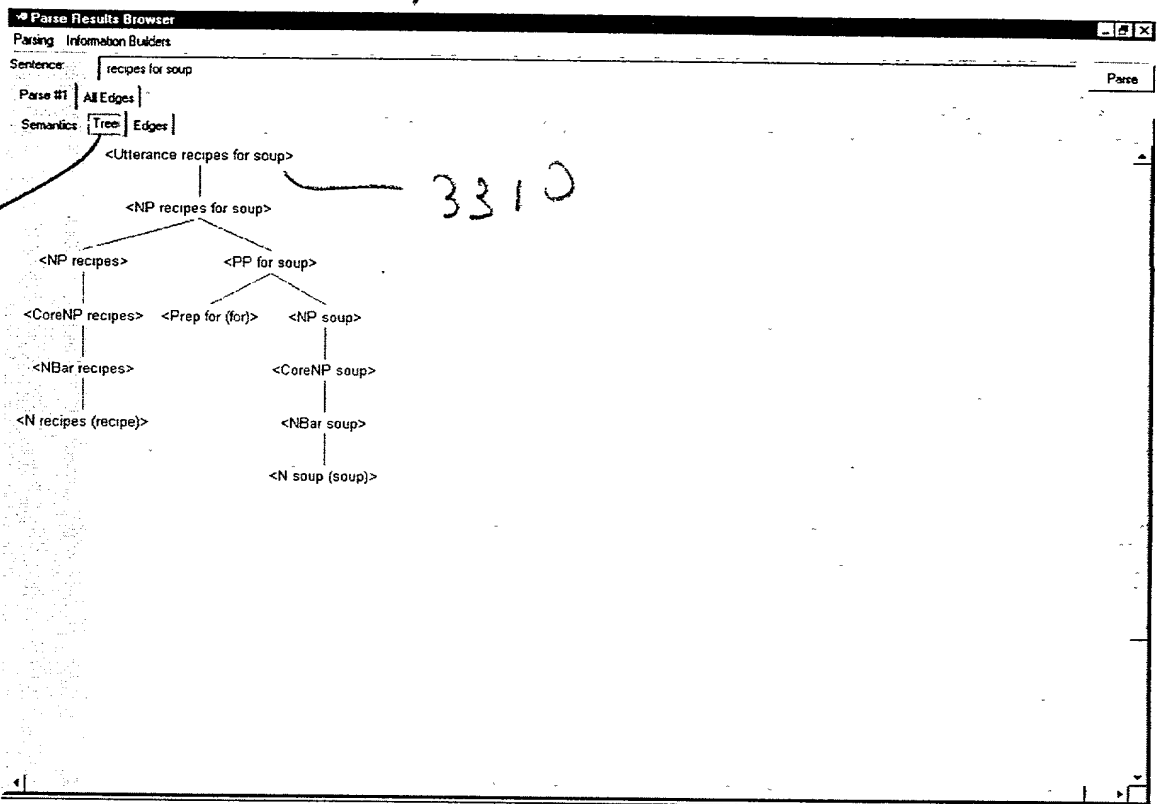


Fig 28

6 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

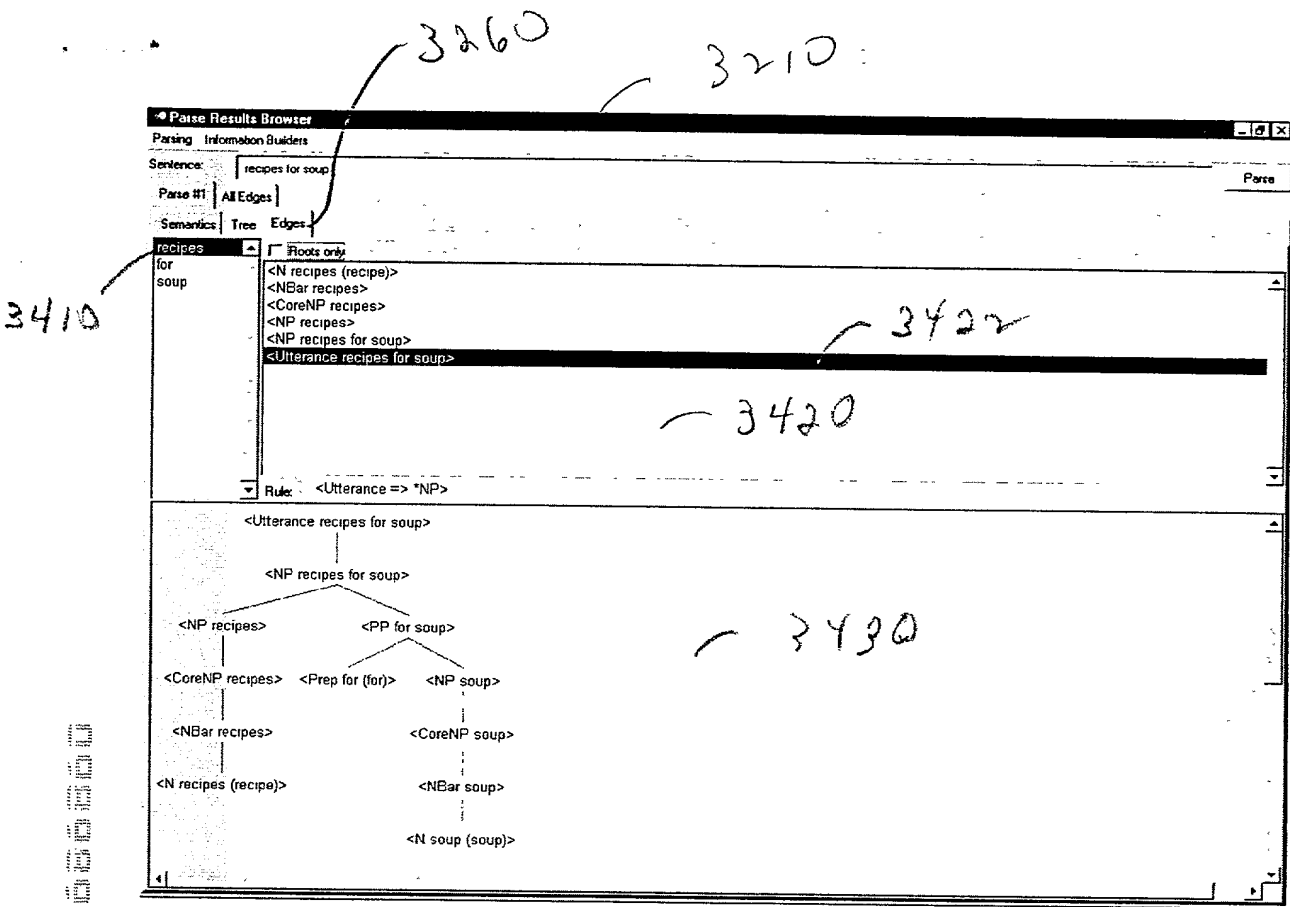


Fig 29

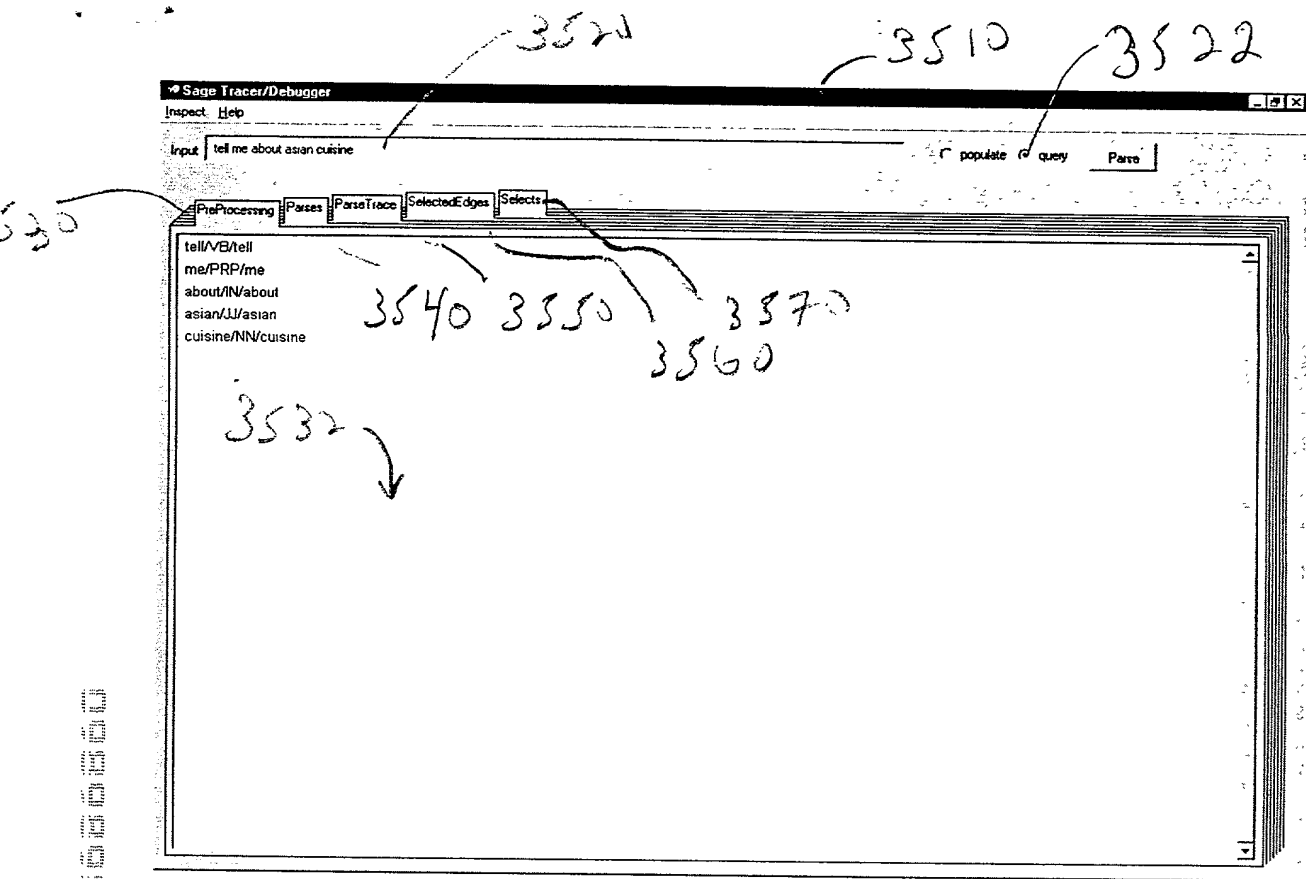


Fig 3D

3520 3500 3510

Sage Tracer/Debugger

Inspect Help

Input: tell me about asian cuisine

populate query Parse

PreProcessing Parsed ParseTrace SelectedEdges Selects

<Edges 1-6: Utterance => VP >

3705

Rule: <Utterance => VP (Imperative) (ImperativeHead)

EntityLexLF

type [[Food]]

value cuisine

location || FunctionLexLF

type [[Locative Relation]]

externalArgument. || EntityLexLF

type [[Food]]

value cuisine ||

locative || EntityLexLF

type [[Asia]]

value Asia || || ||

3710

list view tree view

<Edge 1-6: Utterance => VP >

<Edge 1-6: VP => VP NP >

<Edge 1-4: VP => VBar >

<Edge 1-4: VBar => V >

<Edge 1-4: V => V >

<Edge 4-6: NP => CoreNP >

<Edge 4-6: CoreNP => NBar >

<Edge 4-6: NBar => AdjBar NBar >

<Edge 4-5: AdjBar => Adj >

<Edge 4-5: Adj => Adj >

<Edge 5-6: NBar => N >

<Edge 5-6: N => N >

3730

Utterance

VP

VP

VBar

NP

CoreNP

NBar

AdjBar

asian

NBar

cuisine

3720

Fig 31